Cumulative Author-Title Index

For: Vol. 1, Nos. 1, 2, 3, 4 (1979-1980)
Vol. 2, Nos. 1, 2, 3, 4 (1981-1982)
Vol. 3, Nos. 1, 2, 3, 4 (1983-1984)

Abstracts of Heat Treating Literature—1980 ..... 2(2) 150–203
Abstracts of Heat Treating Literature—1981 ..... 2(3) 250–214
Abstracts of Heat Treating Literature, January–August, 1982.. 2(4) 375–422
Abstracts of Heat Treating Literature, September–December, 1982 ..... 3(1) 51–72
Abstracts of Heat Treating Literature, January–June, 1983 ... 3(2) 129–172
Abstracts of Heat Treating Literature, June–December, 1983 . 3(3) 254–285
Abstracts of Heat Treating Literature, January–August, 1984... 3(4) 290–422

Age Hardening in a Duplex Stainless Steel: Solomon, H. D..... 3(1) 3–15
Amicarelli, V.: Manganese Diffusion Coatings of Some Conventional and Sintered Steels ..... 3(4) 344–352
Analytical Approach for Establishing Case Depth Requirements in Carburized Gears, An: Sharma, A. K., Walter, G. H., and Breen, D. H. ..... 1(1) 48–57
Anctil, A.A.: Fracture Toughness and Fatigue Properties of VASCO X-2 Steel Gear Materials ..... 2(4) 331–336
Annealing of Cold-Rolled Rephosphorized Steels Containing Si and CB: Pradhan, R. R..... 2(1) 73–82
Applicability of Hardenability Concepts in Heat Treatment of Steels: Doane, D. ..... 1(1) 5–30
Applications of Fluidized Bed Furnaces for the Heat Treatment of Tool Steels: Shepherd, G. N. ..... 2(3) 217–224
Application of Instrumentation to Achieve Precision in Carburizing: Koebel, K. ..... 1(2) 23–29
Arai, T.: Carbide Coating Process by Use of Molten Borax in Japan ..... 1(2) 15–22
Arnson, H. L.: Hardenability of Low- and Medium-Carbon Mn-Cr-Ni-Mo Steels ..... 3(3) 183–192
Ashida, Y.: Strengthening and Toughening of Cr-Ni-Mn-V Austenitic Hot Work Tool Steels..... 2(4) 321–330
Austempered Ductile Iron—Process Control and Quality Assurance: Loper, C. R., Jr. and Voigt, R. C..... 3(4) 291–309
Azrin, M.: Fracture Toughness and Fatigue Properties of VASCO X-2 Steel Gear Materials ..... 2(4) 331–336

Bain, E.C.: Factors Affecting the Inherent Hardenability of Steel (Heat Treating Classic) ..... 1(2) 57–100
Banerjee, R. L.: Effect of Room Temperature Aging on Low Temperature Transformation of Retained Austenite..... 3(4) 353–355
X-Ray Diffraction Study of the Low Temperature Transformation of Retained Austenite..... 3(1) 48–50
Basic Requirements for Reducing the Consumption of Carburizing Gases: Wyss, U., Hoffman, R., and Neumann, F. ..... 1(3) 14–23
Bates, C. E.: Evaluating Quenchants and Facilities for Hardening Steel..... 3(2) 83–99
Beck, G.: Relationship Between Quenching Process, Hardness Depth and Quench Defects in Steels..... 1(3) 50–56
Bell T.: The Fatigue Characteristics of Plasma Nitrided Three Pct Cr-Mo Steel..... 2(3) 232–237
Blackmore, P.: The Effects of Metallurgical Process Variables on the Properties of Austempered Ductile Irons..... 3(4) 310–325
Blarasin, A.: Origin and Development of Residual Stresses Induced by Laser Surface-Hardening Treatments ..... 3(3) 192–204
Bobart, G. F.: Innovative Induction Heat Treat Systems ..... 2(4) 351–358
Bocchini, G. E.: Manganese Diffusion Coatings of Some Conventional and Sintered Steels ..... 3(4) 344–352
Boghetich, G.: Manganese Diffusion Coatings of Some Conventional and Sintered Steels ..... 3(4) 344–352
Book Review—Steel and Its Heat Treatment, Second Edition, K.-E. Thelning: Stickels, C. A. ..... 3(4) 356
Boyd, J. D.: Microalloying and Precipitation in Cr-V Rail Steels ..... 3(3) 192–204
Breen, D. H.: An Analytical Approach for Establishing Case Depth Requirements in Carburized Gears..... 1(1) 48–57
Breitzig, R. W.: Future Alloys for High Temperature Heat Treating Equipment..... 1(1) 81–86
Buck, R. M.: Influence of Sub-Zero and Shot-Peening Treatments on Impact and Fatigue Fracture Properties of Case-Hardened Steels..... 2(1) 43–53

Calculation of the Equilibrium Composition of Blended Gases for Heat Treating Furnace: Stickels, C. A. ..... 1(1) 31–41
Carbide Coating Process by Use of Molten Borax Bath in Japan: Arai, Tohru ..... 1(2) 15–22
Carbonitriding at 1050° in a Glow-discharge Plasma: Grube W. L. and Koistinen, D. P..... 2(3) 211–216
Carburization of a High-Manganese, Low C Steel by Methane Nitrogen Gas Mixtures: Nester, F., Rostoker, W., and Domagala, R. F..... 1(1) 58–63
Cento, L.: Manganese Diffusion Coatings of Some Conventional and Sintered Steels ..... 3(4) 344–352
Colombo, R. L.: On the Soft Layer in Carburized Gears ..... 3(2) 126–128
Combustion Systems and Pressure Control—How to Tune Combustion Systems for Fuel Savings: Reed, R. J..... 1(1) 93–94
Corrections ..... 1(4) 72
Correlation of Measurements of Retained Austenite in Carburized Steels by X-Ray Diffraction and Quantitative Metallography: Eldis, G. T..... 1(3) 24–30

Dawes, C.: A Re-Appraisal of Nitrocarburising and Nitriding When Applied to the Design and Manufacture of Non-Alloy Steel Automobile Components..... 1(2) 30–42
DeSanctis, M.: Origin and Development of Residual Stresses Induced by Laser Surface-Hardening Treatments ..... 3(3) 129–204
Development of Normalized and Tempered Al-B Treated 1¼Cr-½Mo Steel Plate, The: Watanabe, S., Furusawa, J., Nakanishi, M., and Ohtani, H..... 1(4) 61–67
Dhooge, A.: Reheat Cracking in Welded Structures During Stress Relief Heat Treatments ..... 1(1) 72–80
Diesburg, D. E.: Influence of Sub-Zero and Shot-Peening Treatments on Impact and Fatigue Fracture Properties of Case-Hardened Steels..... 2(1) 43–53
Direct Atmosphere Generation and Control in Heat Treatment Furnaces: Goehring, W. and Luiten, C. H. ..... 1(4) 10–14
Doane, D.: Applicability of Hardenability Concepts in Heat Treatment of Steels..... 1(1) 5–30

Domagala, R. F.: Carburization of a High-Manganese, Low C Steel by Methane Nitrogen Gas Mixtures ..... *1*(1) 58–63
Drenth, B. R.: Heat Treatment, Aging Effects, and Microstructure of 12 Pct Cr Steels ..... *3*(3) 237–248

Effect of Composition on Distance to First Bainite in Carburized Steels: Eldis, G. T., and Smith, Y. E. ..... *2*(1) 62–72
Effect of Phosphorous Content ond Proeutectoid Carbide Distribution on the Fracture Behavior of 52100 Steel, The: Shen, F. S. and Krauss, G. ..... *2*(3) 238–249
Effect of Room Temperature Aging on Low Temperature Transformation of Retained Austenite: Banerjee, R. L. .... *3*(4) 353–355
Effect of Temperature Gradient on the Quenching Power in Fluidized Beds: Luty, W. ..... *3*(2) 107–113
Effect of Thermal Processing Variations of the Mechanical Properties and Microstructure of a Precipitation Hardening HSLA Steel: Hicho, G. E., Singhal, S., Smith, L. C., and Fields, R. J. ..... *3*(3) 205–212
Effects of Metallurgical Process Variables on the Properties of Austempered Ductile Irons, The: Blackmore, P. and Harding R. ..... *3*(4) 310–325
Effects of Phosphorous and Carbon on the Hardenability of 41XX Type Steels, The: Jacobs, F. A. and Krauss, G. ..... *2*(2) 139–146
Eldis, G. T.: Correlation of Measurements of Retained Austenite in Carburized Steels by X-Ray Diffraction and Quantitative Metallography ..... *1*(3) 24–30
Effect of Composition on Distance to First Bainite in Carburized Steels ..... *2*(1) 62–72
Electron Beam Surface Hardening Utilizing Computer Control: Hanson, R. C. ..... *3*(1) 31–37
Energy Savings on Continuous Heat Treat Equipment: Jayaraman, V. ..... *3*(1) 23–29
Engineering Method to Judge the Quench-Hardening of Steel from Cooling Curves of Quenching Oils, An: Tamura, I., Shimizu, N., and Okada, T. ..... *3*(4) 335–343
Ericsson, T.: Residual Stresses in the Soft Pearlite Layer of Carburized Steel ..... *1*(3) 3–13
A Study of Reactions Occurring During the Carbonitriding Process ..... *2*(1) 3–19
Evaluating Quenchants and Facilities for Hardening Steel: Monroe, R. W. and Bates, C. E. ..... *3*(2) 83–99
Evaluation of Gas Carburizing in a New Fluidized-Bed Furnace: Moore, J. J. and Storey, G. G. ..... *2*(2) 118–120

Factors Affecting the Inherent Hardenability of Steel (Heat Treating Classic): Bain, E. C. ..... *1*(2) 57–100
Farkas, Sz.: Plasma Nitriding Improves Service Behavior of Textile Machine Components ..... *1*(4) 15–20
Fatigue Characteristics of Plasma Nitrided Three Pct Cr-Mo Steel, The: Bell, T. and Loh, N. L. ..... *2*(3) 232–237
Fatigue of Case-Hardened Steels; Role of Residual Macro- and Microstresses: Mittemeijer, E. J. ..... *3*(2) 114–119
Feasibility Study on Nitriding of Aluminum by Surface Melting, A: Hioki, S., Yamada, T., Hatano, K., and Ibaragi, Y. ..... *1*(3) 65–7
Fields R. J.: Effect of Thermal Processing Variations of the Mechanical Properties and Microstructure of a Precipitation Hardening HSLA Steel ..... *3*(3) 205–212
Filep, E.: Plasma Nitriding Improves Service Behaviour of Textile Machine Components ..... *1*(4) 15–20
Fournelle, R. A.: High Cycle Fatigue Resistance of AISI E9310 Carburized Steel with Two Different Levels of Surface Retained Austenite and Surface Residual Stress ..... *2*(1) 54–61
Fracture Toughness and Fatigue Properties of VASCO X-2 Steel Gear Materials: Anctil, A. A., and Azrin, M. ..... *2*(4) 331–336
Fuel Conservation in Industrial Heating: Hingwe, A. K. ..... *1*(1) 42–47
Further Investigation ot Surface Hardening of Iron and Steel by Solar Energy, A: Yu, Z.-K. (Yee, C.-F.), Zong, Q.-Y, and Tam, Z.-T. ..... *3*(2) 120–125
Furusawa, J.: The Development of Normalized and Tempered Al-B Treated 1¼Cr-½Mo Steel Plate ..... *1*(4) 61–67
Future Alloys for High Temperature Heat Treating Equipment: Breitzig, R. W. ..... *1*(1) 81–86

Goehring, W.: Direct Atmosphere Generation and Control in Heat Treatment Furnaces ..... *1*(4) 10–14
Gordon, P.: The Temper Colors on Steel ..... *1*(1) 93
Grube, W. L.: Carbonitriding at 1050° in the Glow-discharge Plasma ..... *2*(3) 211–216
High-Rate Plasma Carburizing with Propane ..... *1*(1) 95–97
Progress in Plasma Carburizing ..... *1*(3) 40–49
Guan, Z.-M.: The Impregnation of Oxygen, Sulfur, Boron, Carbon, and Nitrogen into the Surface of High-Speed Steel Cutters in a Gaseous Medium ..... *3*(1) 16–22
Guimier, A.: Heat Treating Processes with Nitrogen and Methanol-Based Atmospheres ..... *2*(1) 35–42

Hanson, R. C.: Electron Beam Surface Hardening Utilizing Computer Control ..... *3*(1) 31–37
Hardenabilities of Vanadium-Modified 4330 Low Alloy Constructional Steels: Mangonon, P. L. ..... *1*(4) 47–60
Hardenability of Low- and Medium-Carbon Mn-Cr-Ni-Mo Steels: Scoonover, T. M. and Arson, H. L. ..... *3*(3) 183–192
Harding, R.: Effects of Metallurgical Process Variables on the Properties ..... *3*(4) 310–325
Hatano, K.: A Feasibility Study on Nitriding of Aluminum by Surface Melting ..... *1*(3) 65–72
Hato, H.: Strengthening and Toughening of Cr-Ni-Mn-V Austenitic Hot Work Tool Steels ..... *2*(4) 321–330
Heat Treating Classic: Factors Affecting the Inherent Hardenability of Steel: Bain, E. C. ..... *1*(2) 57–100
Heat Treating Definitions Recommended by the International Federation for the Heat Treatment of Materials: International Federation for the Heat Treatment of Materials—Terminology Technical Committee ..... *1*(4) 68–70
Heat Treating Processes with Nitrogen and Methanol-Based Atmospheres: Kostelitz, M., Pavee, C., and Guimier, A. ..... *2*(1) 35–42
Heat Treatment, Aging Effects, and Microstructure of 12 pct Cr Steels: Schinkel, J. W., Rademakers, P. L. F., Drenth, B. R., and Scheepens, C. P. ..... *3*(3) 237–248
Heat Treatment of Powdered Metal Parts in Gaseous NH_3-SO_2 Atmospheres: Szczecinski, K., Wysiecky, M., and Wawrzynski, W. ..... *3*(3) 249–253
Heat Treatment of the Commercial Aluminum Alloy 7075, The: Kock, G. H. and Kolijn, D. T. ..... *1*(2) 3–14
Hicho, G. E.: Effect of Thermal Processing Variations of the Mechanical Properties and Microstructure of a Precipitation Hardening HSLA Steel ..... *3*(3) 205–212
High Cycle Fatigue Resistance of AISI E9310 Carburized Steel with Two Different Levels of Surface Retained Austenite and Surface Residual Stress: Panhans, M. A., and Fournelle, R. A. ..... *2*(1) 54–61
High-Rate Plasma Carburizing with Prophane ..... *1*(1) 95–97
High Volume Gas Carburizing Furnace: Advanced Design and Practical Results: Montevecchi, I. ..... *1*(4) 3–9
Hildenwall, B.: Residual Stresses in the Soft Pearlite Layer of Carburized Steel ..... *1*(3) 3–13
Hingwe, A. K.: Fuel Conservation in Industrial Heating ..... *1*(1) 42–47
Hioki, S.: A Feasibility Study on Nitriding of Aluminum by Surface Melting ..... *1*(3) 65–72
Hoffman, R.: Basic Requirements for Reducing the Consumption of Carburizing Gases ..... *1*(3) 14–23

Ibaragi, Y.: A Feasibility Study on Nitriding Aluminum by Surface Melting ..... *1*(3) 65–72
Impregnation of Oxygen, Sulfur, Boron, Carbon, and Nitrogen into the Surface of High-Speed Steel Cutters in a Gaseous Medium, The: Guan, A.-M. Liu, G.-X., Xu, H.-J., and Peng, S.-R. .... *3*(1) 16–22
Influence of Quenchant Temperature on the Surface Residual Stress and Impact Fracture of Carburized Steel: Shea, M. M. ..... *3*(1) 37–4
Influence of Sub-Zero and Shot-Peening Treatments on Impact and Fatigue Fracture Properties of Case-Hardened Steels: Kim, C., Diesburg, D. E., and Buck, R. M. ..... *2*(1) 43–53
Innovative Induction Heat Treat Systems: Bobart, G. F. ..... *2*(4) 351–358
International Federation for the Heat Treatment of Materials—Terminology Technical Committee: Heat Treating Definitions Recommended by the International Federation for the Heat Treatment of Materials ..... *1*(4) 68–70
International System of Units for Journal of Heat Treating, The (Notice) ..... *1*(1) 99–102

Jayaraman, V.: Energy Savings on Continuous Heat Treating Equipment ..... *3*(1) 23–29
Jesseman, R. J.: Mechanical Properties and Precipitation-Hardening Response in ASTM A710 Grade A and A736 Alloy Steel Plates ..... *3*(3) 228–236
Jiang, Z.-S.: Structure of Boride Layers and the Transition Zone Produced by Boronization ..... *2*(4) 337–343
Jones, K. D.: Microstructure Fatigue of Partial Pressure Carburized SAE 8620 and EX 24 Steels ..... *1*(1) 64–71
Juhua, Z.: Microstructure Mechanical Properties and Heat Treatment of New Matrix Steel 65Cr4W3Mo2VNb with High Strength and Toughness ..... *1*(4) 37–46

Kaspersma, J. H.: A Model for Carbon Transfer in Gas-Phase Carburization of Steel ..... *1*(4) 21–28
Kawahara, S.: Strengthening and Toughening of Cr-Ni-Mn-V Austenitic Hot Work Tool Steels ..... *2*(4) 321–330
Kim, C.: Influence of Sub-Zero and Shot-Peening Treatments on Impact and Fatigue Fracture Properties of Case-Hardened Steels .. *2*(1) 43–53
X-Ray Method of Measuring Retained Austenite in Heat Treated White Cast Irons ..... *1*(2) 43–51
Kobayashi, R.: Precipitation-Strengthened Spring Steel for Automotive Suspensions ..... *3*(3) 220–227
Koch, G. H.: The Heat Treatment of the Commercial Aluminum Alloy 7075 ..... *1*(2) 3–14
Koebel, N. K.: Application of Instrumentation to Achieve Precision Carburizing ..... *1*(2) 23–29
Koistinen, D. P.: Carbonitriding at 1050° in a Glow-discharge Plasma ..... *2*(3) 211–216
Kolijn, D. T.: The Heat Treatment of the Commercial Aluminum Alloy 7075 ..... *1*(2) 3–14
Kolozsvary,: Plasma Nitriding Improves Service Behaviour of Textile Machine Components ..... *1*(4) 15–20

Komatsubara, N.: Prediction of Hardenability Effects from Isothermal Transformation Kinetics ..... *1*(3) 57–64
Kostelitz, M.: Heat Treating Processes with Nitrogen and Methanol-Based Atmospheres ..... *2*(1) 35–42
Krauss, G.: The Effect of Phosphorous Content and Proeutectoid Carbide Distribution on the Fracture Behavior of 52100 Steel ..... *2*(3) 238–249
Message from the Editor ..... *2*(3) 209
Microstructure Fatigue of Partial Pressure Carburized SAE 8620 and EX 24 Steels ..... *1*(1) 64–71
Recrystallization of 70 Pct Cu-30 Pct Zn Brass by Laser Irradiation and Furnace Heating ..... *2*(1) 83–92
Toughness and Intergranular Fracture of a Simulated Carburized Case in EX-24 Type Steel ..... *1*(3) 31–39
Kun, C.: Microstructure Mechanical Properties and Heat Treatment of New Matrix Steel 64Cr4W3Mo2VNb with High Strength and Toughness ..... *1*(4) 37–46
Kurimoto, M.: Precipitation-Strengthened Spring Steel for Automotive Suspensions ..... *3*(3) 220–227

Lamberto, M.: On the Soft Layer in Carburized Gears ..... *3*(2) 126–128
Letters to the Editor ..... *1*(4) 71
Li, L.-X.: Structure of Boride Layers and the Transition Zone Produced by Boronization ..... *2*(4) 337–343
Li, T.-F.: Structure of Boride Layers and the Transition Zone Produced by Boronization ..... *2*(4) 337–343
Liu, G.-X.: The Impregnation of Oxygen, Sulfur, Boron, Carbon, and Nitrogen into the Surface of High-Speed Steel Cutters in a Gaseous Medium ..... *3*(1) 16–22
Loh, N. L.: The Fatigue Characteristics of Plasma Nitrided Three Pct Cr-Mo Steel ..... *2*(3) 232–237
Loper, C. R., Jr.: Austempered Ductile Iron—Process Control and Quality Assurance ..... *3*(4) 291–309
Lulten, C. H.: Direct Atmosphere Generation and Control in Heat Treatment Furnaces ..... *1*(4) 10–14
Luty, W.: Effect of Temperature Gradient on the Quenching Power in Fluidized Beds ..... *3*(2) 107–113

Malis, T. F.: Microalloying and Precipitation in Cr-V Rail Steels ..... *3*(3) 213–219
Manganese Diffusion Coatings of Some Conventional and Sintered Steels: Amicarelli, V., Bocchini, G. E., Boghetich, G., and Cento, L. ..... *3*(4) 344–352
Mangonon, P. L.: Hardenabilities of Vanadium-Modified 4330 Low Alloy Constructional Steels ..... *1*(4) 47–60
Mechanical Properties and Precipitation-Hardening Response in ASTM A710 Grade A and A736 Alloy Steel Plates: Jesseman, R. J. and Murphy, G. J. ..... *2*(3) 228–236
Mehta, D. A.: Recrystallization of 70 Pct Cu-30 Pct Zn Brass by Laser Irradiation and Furnace Heating ..... *2*(1) 83–92
Message from the Editor: Krauss, G. ..... *2*(3) 209
Method for Predicting the Critical Cooling Rate to Prevent Sensitization, A: Srinivasan, S. R. ..... *1*(1) 87–92
Microalloying and Precipitation in Cr-V Rail Steels: Parson, D. E., Malis, T. F., and Boyd, J. D. ..... *1*(3) 114–119
Microstructure Fatigue of Partial Pressure Carburized SAE 8620 and EX Steels: Jones, K. D. and Krauss, G. ..... *1*(1) 64–71
Microstructure Mechanical Properties and Heat Treatment of New Matrix Steel 65Cr4W3Mo2VNb with High Strength and Toughness: Kun, C., Zhenhua, H., and Juhua, Z. ..... *1*(4) 37–46
Mittemeijer, E. J.: Fatigue of Case-Hardened Steels: Role of Residual Macro- and Microstresses ..... *3*(2) 114–119
Model for Carbon Transfer in Gas-Phase Carburization of Steel, A: Kaspersma, J. H. and Shay, R. H. ..... *1*(4) 21–28
Monroe, R. W.: Evaluating Quenchants and Facilities for Hardening Steel ..... *3*(2) 83–99
Montevecchi, I.: High Volume Gas Carburizing Furnace: Advanced Design and Practical Results ..... *1*(4) 3–9
Moreaux, F.: Relationship Between Quenching Process, Hardness Depth and Quench Defects in Steels ..... *1*(3) 50–56
Murphy: G. J.: Mechanical Properties and Precipitation-Hardening Response in ASTM A710 Grade A and A736 Alloy Steel Plates ..... *1*(3) 228–236

Nakanishi, M.: The Development of Normalized and Tempered Al-B Treated 1¼Cr-½Mo Steel Plate ..... *1*(4) 61–67
Nester, F.: Carburization of a High-Manganese, Low C Steel by Methane Nitrogen Gas Mixtures ..... *1*(1) 58–63
Neumann, F.: Basic Requirements for Reducing the Consumption of Carburizing Gases ..... *1*(3) 14–23
New Aspects on the Appraisal of the Cooling Process During Hardening of Steel: Thelning, K.-E. ..... *3*(2) 100–107
Notice: The International System of Units for Journal of Heat Treating ..... *1*(1) 99–102

Obermeyer, H. K.: Toughness and Intergranular Fracture of a Simulated Carburized Case in EX-24 Type Steel ..... *1*(3) 31–39
Ohtani, H.: The Development of Normalized and Tempered Al-B Treated 1¼Cr-½Mo Steel Plate ..... *1*(4) 61–67
Okada, T.: An Engineering Method to Judge the Quench-Hardening of Steel from Cooling Curves of Quenching Oils ..... *3*(4) 335–343
Origin and Development of Residual Stresses Induced by Laser Surface-Hardening Treatments: Solina, A., DeSanctis, M., Paganini, L., Blarasin, A., and Quaranta, S. ..... *3*(3) 193–204
Ozone, T.: Precipitation-Strengthened Spring Steel for Automotive ..... *3*(3) 220–227

Paganini, L.: Origin and Development of Residual Stresses Induced by Laser Surface-Hardening Treatments ..... *3*(3) 193–204
Panhans, M. A.: High Cycle Fatigue Resistance of AISI E9310 Carburized Steel with Two Different Levels of Surface Retained Austenite and Surface Residual Stress ..... *2*(1) 54–61
Parsons, D. E.: Microalloying and Precipitation in Cr-V Rail Steels ..... *3*(3) 213–219
Pavee, C.: Heat Treating Processes with Nitrogen and Methanol-Based Atmospheres ..... *2*(1) 35–42
Pei, X.-R.: Structure of Boride Layers and the Transition Zone Produced by Boronization ..... *2*(4) 337–343
Peng, S.-R.: The Impregnation of Oxygen, Sulfur, Boron, Carbon, and Nitrogen into the Surface of High-Speed Steel Cutters in a Gaseous Medium ..... *3*(1) 16–22
Plasma Nitriding Improves Service Behaviour of Textile Machine Components: Farkas, Sz., Filep, E., and Kolozsvary, Z. ..... *1*(4) 15–20
Practical Approach to Carburizing Process Determination, A: Williams, M. E. ..... *2*(1) 28–34
Practical Aspects of the Importance of Heat Treating Terminology: Tyrkiel, Eugeniusz ..... *1*(2) 52–54
Pradhan, R. R.: Annealing of Cold-Rolled Rephosphorized Steels Containing Si and Cb ..... *2*(1) 73–82
Precipitation-Strengthened Spring Steel for Automotive Suspensions: Yamamoto, T., Kobayashi, R., Ozone, T., Kurimoto, M. ... *3*(3) 220–227
Prediction of Hardenability Effects from Isothermal Transformation Kinetics: Umemoto, M., Komatsubara,N., and Tamura, I. ..... *1*(3) 57–64
Prediction of Hardenability from Isothermal Transformation Diagrams: Umemoto, M., Nishioka, N., and Tamura, I. ..... *2*(2) 130–138
Preliminary Investigation of Surface Hardening of Steel and Iron by Solar Energy, A: Yu, Z.-K., Zong, Q.-Y., and Tam, Z.-T. .. *2*(4) 344–343
Prevention of Decarburization in Annealing of High Carbon Steel: Purkert, F. E. ..... *2*(3) 225–231
Progress in Plasma Carburizing: Grube, W. L. ..... *1*(3) 40–49
Purkert, F. E.: Prevention of Decarburization in Annealing of High Carbon Steel ..... *2*(3) 225–231

Quaranta, S.: Origin and Development of Residual Stresses Induced by Laser Surface-Hardening Treatments ..... *3*(3) 193–204

Rademakers, P. L. F.: Heat Treatment, Aging Effects, and Microstructure of 12 Pct Cr Steels ..... *3*(3) 237–248
Re-Appraisal of Nitrocarburizing and Nitriding When Applied to the Design and Manufacture of Non-Alloy Steel Automobile Components, A: Dawes, C., Tranter, D. F., and Smith, C. G. . *1*(2) 30–42
Recrystallization of 70 Pct Cu-30 Pct Zn Brass by Laser Irradiation and Furnace Heating: Mehta, D. A. and Krauss, G. ..... *2*(1) 83–92
Reed, R. J.: Combustion Systems and Pressure Control—How to Tune Combustion Systems for Fuel Savings ..... *1*(1) 93–94
Reheat Cracking in Welded Structures During Stress Relief Heat Treatments: Dhooge, A. and Vinckier, A. G. ..... *1*(1) 72–80
Relationship Between Quenching Process, Hardness Depth and Quench Defects in Steels: Moreaux, F., Simon, A., and Beck, G. ..... *1*(3) 50–56
Residual Stress and Microstructure in Quenched and Tempered and Hot Oil Quenched Carburized Gears: Shea, M. M. ..... *1*(4) 29–36
Residual Stresses in the Soft Pearlite Layer of Carburized Steel: Hildenwall, B. and Ericsson, T. ..... *1*(3) 3–13
Role of a Vacuum Furnace in Heat Treating Coated Tool Steels, The: Vagle, M. ..... *2*(2) 121–129
Roller Contact Fatigue Study of Austempered Ductile Iron: Sharma, V. K. ..... *3*(4) 326–334
Rostoker, W.: Carburization of a High-Manganese, Low C Steel by Methane Nitrogen Gas Mixtures ..... *1*(1) 58–63

Scheepens, C. P.: Heat Treatment, Aging Effects, and Microstructure of 12 Pct Cr Steels ..... *3*(3) 237–248
Schinkel, J. W.: Heat Treatment, Aging Effects, and Microstructure of 12 Pct Cr Steels ..... *3*(3) 237–248
Scoonover, T. M.: Hardenability of Low- and Medium-Carbon Mn-Cr-Ni-Mo Steels ..... *3*(3) 183–192
Schlict, H.: Varying Heat Treatment Parameters to Optimize Materials and Rolling Contact Fatigue Strength ..... *1*(3) 73–80
Seki, Y.: Strengthening and Toughening of Cr-Ni-Mn-V Austenitic Hot Work Tool Steels ..... *2*(4) 321–330
Sharma, V. K.: An Analytical Approach for Establishing Case Depth Requirements in Carburized Gears ..... *1*(1) 48–57
Roller Contact Fatigue Study of Austempered Ductile Iron ..... *3*(4) 326-334
Shay, R. H.: A Model for Carbon Transfer in Gas-Phase Carburization of Steel ..... *1*(4) 21–28
Shea, M. M.: Influence of Quenchant Temperature on the Surface Residual Stress and Impact Fracture of Carburized Steel ..... *3*(1) 37–47
Residual Stress and Microstructure in Quenched and Tempered and Hot Oil Quenched Carburized Gears ..... *1*(4) 29–36

Shen, F. S.: The Effect of Phosphorous Content and Proeutectoid Carbide Distribution on the Fracture Behavior of 52100 Steel ..... *2*(3) 238–249
Shepherd, G. N.: Applications of Fluidized Bed Furnaces for the Heat Treatment of Tool Steels ..... *2*(3) 217–224
Shimizu, N.: An Engineering Method to Judge the Quench-Hardening of Steel from Cooling Curves of Quenching Oils ..... *3*(4) 335–343
Singhal, S.: Effect of Thermal Processing Variations of the Mechanical Properties and Microstructure of a Precipitation Hardening HSLA Steel ..... *3*(3) 205–212
Simon, A.: Relationship Between Quenching Process, Hardness Depth and Quench Defects in Steels ..... *1*(3) 50–56
Slycke, J.: A Study of Reactions Occurring During the Carbonitriding Process ..... *2*(1) 3–19
Smith, C. G.: A Re-Appraisal of Nitrocarburising and Nitriding When Applied to the Design and Manufacture of Non-Alloy Steel Automobile Components ..... *1*(2) 30–42
Smith, L. C.: Effect of Thermal Processing Variations of the Mechanical Properties and Microstructure of a Precipitation Hardening HSLA Steel ..... *3*(3) 205–212
Smith, Y. E.: Effect of Composition on Distance to First Bainite in Carburized Steels ..... *2*(1) 62–72
Soft Layer in Carburized Gears, On the: Colombo, R. L., Fusani, F., and Lamberto, M. ..... *3*(2) 126–128
Solina, A.: Origin and Development of Residual Stresses Induced by Laser Surface-Hardening Treatments ..... *3*(3) 193–204
Solomon, H. D.: Age Hardening in a Duplex Stainless Steel ..... *3*(1) 3–15
Stickels, C. A.: Book Review — Steel and Its Heat Treatment, Second Edition, K.-E. Thelning ..... *3*(4) 356
Calculation of the Equilibrium Composition of Blended Gases for Heat Treating Furnace Atmospheres ..... *1*(1) 31–41
Strategies for Efficient Operation of Furnaces Using Nitrogen-Base Atmospheres ..... *2*(4) 359–371
Thermochemistry of Exothermic Gas Atmospheres ..... *2*(1) 20–27
Strategies for Efficient Operation of Furnaces Using Nitrogen-Base Atmospheres: Stickels, C. A. ..... *2*(4) 359–371
Strengthening and Toughening of Cr-Ni-Mn-V Austenitic Hot Work Tool Steels: Seki, Y., Hato, H., Ashida, Y., Katsumi, T., and Kawahara, S. ..... *2*(4) 321–330
Structure of Boride Layers and the Transition Zone Produced by Boronization: Jiang, Z., Zhang, L., Li, L., Pei, Z., and Li, T. ..... *2*(4) 337–343
Study of Reactions Occurring During the Carbonitriding Process, Part II, A: Slycke, J. and Ericsson, T. ..... *2*(2) 97–112
Study of Reactions Occurring During the Carbonitriding Process, A: Slycke, J. and Ericsson, T. ..... *2*(1) 3–19
Szczecinski, K.: Heat Treatment of Powdered Metal Parts in Gaseous NH_3-SO_2 Atmospheres ..... *3*(3) 249–253

Tam, Z.-T.: Preliminary Investigation of Surface Hardening of Steel and Iron by Solar Energy, A ..... *2*(4) 344–350
Tamura, I.: Prediction of Hardenability Effects from Isothermal Transformation Kinetics ..... *1*(3) 57–64
A Method to Judge the Quench-Hardening of Steel from Coding Curves of Quenching Oils ..... 3(4) 335–343
Temper Colors on Steel, The: Gordon, P. ..... *1*(1) 93
Thelning, K.-E.: New Aspects on the Appraisal of the Cooling Process During Hardening of Steel ..... *3*(2) 100–107
Thermochemistry of Exothermic Gas Atmospheres: Stickels, C. A. ..... *2*(1) 20–27
Toughness and Intergranular Fracture of a Simulated Carburized Case in EX-24 Type Steel: Obermeyer, H. K., and Krauss, G. ..... *1*(3) 31–39
Tranter, D. F.: A Re-Appraisal of Nitrocarburising and Nitriding When Applied to the Design and Manufacture of Non-Alloy Steel Automobile Components ..... *1*(2) 30–42
Tsuji, K.: Strengthening and Toughening of Cr-Ni-Mn-V Austenitic Hot Work Tool Steels ..... *2*(4) 321–330
Tyrkiel, Eugeniusz: Practiced Aspects of the Importance of Heat Treating Terminology ..... *1*(2) 52–54

Umemoto, M.: Prediction of Hardenability Effects from Isothermal Transformation Kinetics ..... *1*(3) 57–64
Varying Heat Treatment Parameters to Optimize Material and Rolling Contact Fatigue Strength: Schlict, H. and Zwirlein, O. ..... *1*(3) 73–80
Vinckier, A. G.: Reheat Cracking in Welded Structures During Stress Relief Heat Treatments ..... *1*(1) 72–80
Voigt, R. C.: Austempered Ductile Iron — Process Control and Quality Assurance ..... *3*(4) 291–309

Walter, G. H.: An Analytical Approach for Establishing Case Depth Requirements in Carburized Gears ..... *1*(1) 48–57
Watanabe, S.: The Development of Normalized and Tempered Al-B Treated 1¼Cr-½Mo Steel Plate ..... *1*(4) 61–67
Wawrzynski, W.: Heat Treatment of Powdered Metal Parts in Gaseous NH_3-SO_2 Atmospheres ..... *3*(3) 249–253
Williams, M. E.: A Practical Approach to Carburizing Process Determination ..... *2*(1) 28–34
Wysiecki, M.: Heat Treatment of Powdered Metal Parts in Gaseous NH_3-SO_2 Atmospheres ..... *3*(3) 249–253
Wyss, U.: Basic Requirements for Reducing the Consumption of Carburizing Gases ..... *1*(3) 14–23

X-Ray Determination of Retained Austenite: Banerjee, R. L. .. *2*(2) 147–149
X-Ray Diffraction Study of the Low Temperature Transformation of Retained Austenite, An: Banerjee, R. L. ..... *3*(1) 48–50
X-Ray Method of Measuring Retained Austenite in Heat Treated White Cast Irons: Kim, C. ..... *1*(2) 43–51
Xu, H.-J.: The Impregnation of Oxygen, Sulfur, Boron, Carbon, and Nitrogen into the Surface of High-Speed Steel Cutters in a Gaseous Medium ..... *3*(1) 16–22

Yamada, T.: A Feasibility Study on Nitriding of Aluminum by Surface Melting ..... *1*(3) 65–72
Yamamoto, T.: Precipitation-Strengthened Spring Steel for Automotive Suspensions ..... *3*(3) 220–227
Yee, C.-F. (Yu, Z.-Kui): A Further Investigation of Surface Hardening of Iron and Steel by Solar Energy ..... *3*(2) 120–125
Yu, Z.-K. (Yee, C.-F.): A Further Investigation of Surface Hardening of Iron and Steel by Solar Energy ..... *3*(2) 120–125
Preliminary Investigation of Surface Hardening of Steel and Iron by Solar Energy, A ..... *2*(4) 344–350

Zhang, L.-X.: Structure of Boride Layers and the Transition Zone Produced by Boronization ..... *2*(4) 337–343
Zhenhua, H.: Microstructure Mechanical Properties and Heat Treatment of New Matrix Steel 65Cr4W3Mo2VNb with High Strength and Toughness ..... *1*(4) 37–46
Zong, Q.-Y.: A Further Investigation of Surface Hardening of Iron and Steel by Solar Energy ..... *3*(2) 120–125
Preliminary Investigation of Surface Hardening of Steel and Iron by Solar Energy, A ..... *2*(4) 344–350
Zwirlein, O.: Varying Heat Treatment Parameters to Optimize Material and Rolling Contact Fatigue Strength ..... *1*(3) 73–80